

## Fire Blight

Fire blight, otherwise known as blossom blight, twig blight, blight canker and collar blight, is a bacterial disease of apple, quince, and pear. It is often called generally "pear blight" because it has been unusually damaging to pears. On apples and quinces its chief effect is to kill blossoms in spring and the sudden, widespread death of blossoms in this way gives the name of "blossom" blight to fire blight. In some seasons twigs are also killed and in susceptible apples like the Grimes Golden or Yellow Transparent, whole branches or even trees are killed and large, dangerous cankers formed.

The bacteria work inside the bark and in soft, sappy branches they can advance rapidly in the inner bark, killing and discoloring the tissue. The bacteria winter over in the trunk or limb cankers and are spread from these by insects to twigs or blossoms, in spring. Bees, which otherwise serve a useful purpose in helping to fertilize the blossoms, often work a hardship on the other hand by spreading the fire blight organism from flower to flower as they gather nectar. The severity of blight in summer depends on, first, the presence of these hold-over cankers, and second, the general moisture conditions in the orchard. Any factors inducing soft, sappy growth, such as abundant rain, cultivation, and heavy nitrogen fertilization, are likely to increase blight. Dry conditions and slow growth are unfavorable to it. This holds true even for susceptible varieties, though the susceptible pears and apples are more or less liable to blight under almost any system of cultivation or fertilization. Of pear varieties, the Duchess and Clapp's Favorite are notoriously susceptible, while the Kieffer, though an inferior pear, is quite resistant to blight.

### Control

Control of blight in an orchard has three phases: (1) careful dormant season pruning to remove hold-over cankers and blighted limbs. Twigs apparently do not carry blight over winter to any extent compared with larger limbs and cankers; (2) frequent inspection of trees in early summer to remove blighted twigs, shoots and limbs before the blight has advanced far enough to be dangerous; and (3) attention to cultivation and fertilization so that these, while sufficient for orchard needs, will not encourage blight.

In summer pruning care is necessary to avoid spreading the blight organism on tools. When blight is advancing rapidly it is

necessary to cut a foot or more below the outward visible indications in the discolored bark; when a cut is made the cut surface should be daubed with corrosive sublimate solution (obtainable from druggists in tablet form, one tablet in a pint of water making a solution of the required strength). This solution may be carried conveniently in a pickle or milk bottle which has a swab of sponge or cotton tied over the mouth.

It is only on susceptible varieties of apple and pear that close attention and careful cutting out is needed. In most apple varieties and quinces the disease may cause blossom blight or twig blight but it normally dies out completely as dry weather comes, and does not advance far down limbs or branches.